

# MANUFACTURING EXTENSION PARTNERSHIP

## Success Stories from the Field

### Burr Oak Tool, Inc.

#### Michigan Manufacturing Technology Center

#### Burr Oak Tool, Inc. Achieves On-Time Delivery with Lean

##### Client Profile:

Burr Oak Tool designs, manufactures and services fin dies, fin lines, and tube processing machinery. The heat transfer and coil making machine lines manufactured by Oak stamp fins, create hairpins, expand tubing and form heat exchange coils. Burr Oak tube processing machines produce quality bends, consistent angles, and straight tubes. The company employs 300 people at its facility in Sturgis, Michigan.

##### Situation:

Burr Oak Tool had a long-standing, dedicated workforce; however, when the company began efforts to improve its competitiveness, it found that same in-house expertise hampering the process. "Burr Oak had a reputation for extremely long deliveries and poor on-time performance," said company president Brian McConnell. "In fact, many customers claimed they had to add a 'Burr Oak factor' to our quoted delivery commitments. This was particularly problematic with foreign customers." "The employee turnover rate at Burr Oak Tool has been and continues to be very low, and it's what led us to becoming insulated -- believing we were the experts -- and that we didn't need advice," he said. "We needed some outside influence to push us." Burr Oak called upon the Michigan Manufacturing Technology Center (MMTC), a NIST MEP network affiliate, for assistance

##### Solution:

MMTC worked with Burr Oak on implementing 5S (Sort, Set in Order, Shine, Standardize, Sustain) Workplace Organization and other process-improvement tools including root cause analysis. As a result of that work, Burr Oak has reduced production time for a hairpin bender from 18 weeks to just 8. Another complex fin die is now produced in just 11 weeks rather than 20. Although the Lean tools used in making these and other improvements were helpful, McConnell says improving team and customer communications was also critical. "For the most part, (these results) were accomplished through better communication, and total employee involvement," he said, pointing to a new process for order intake that allows for greater clarity in understanding the client's needs, reducing rework and wasted time in order fulfillment.

##### Results:

- \* Reduced production time by 55 percent.
- \* Eliminated 9 weeks from production process.
- \* Reduced costs to customers.
- reduced production time for a hairpin bender by 55%
- eliminated 9 weeks from production process for a second line
- improved internal communication

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- implemented 5S and root cause analysis problem solving tools
- Able to reduce pricing to customers as a direct result of manufacturing process improvements

**Testimonial:**

"Our Lean implementation has enabled us to make better decisions. We have also gained a better understanding of many of our processes, and it has allowed us to more easily identify and attack the root causes of any problems."

Brian McConnell, President